PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference RJW:PL:FP14754	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. **PCT/AU01/00137**	International Filing Date *(day/month/year)* 14 February 2001	Priority Date *(day/month/year)* 14 February 2000

International Patent Classification (IPC) or national classification and IPC

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Applicant

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1.   This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2.   This REPORT consists of a total of   3   sheets, including this cover sheet.

   [X]   This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of   12   sheet(s).

3. This report contains indications relating to the following items:

I	[X]	Basis of the report
II	[ ]	Priority
III	[ ]	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	[ ]	Lack of unity of invention
V	[X]	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	[ ]	Certain documents cited
VII	[ ]	Certain defects in the international application
VIII	[ ]	Certain observations on the international application

Date of submission of the demand 6 September 2001	Date of completion of the report 24 May 2002
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer **CHARLES BERKO** Telephone No. (02) 6283 2169

I.	**Basis of the report**

1. With regard to the **elements of the international application:***

☐ the international application as originally filed.

☒ the description,   pages , as originally filed,

       pages , filed with the demand,

       pages **Abstract**, received on **9 May 2002** with the letter of **9 May 2002**

       pages **1-5, 6, 6a, 6b**, received on **29 November 2001** with the letter of **29 November 2001**

☒ the claims,   pages , as originally filed,

       pages , as amended (together with any statement) under Article 19,

       pages **8, 9**, filed with the demand,

       pages **7**, received on **9 May 2002** with the letter of **9 May 2002**

☒ the drawings,   pages **1-5**, as originally filed,

       pages , filed with the demand,

       pages , received on   with the letter of

☐ the sequence listing part of the description:

       pages , as originally filed

       pages , filed with the demand

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language   which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

     ☐ the description,   pages

     ☐ the claims,   Nos.

     ☐ the drawings,   sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

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*   *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

**   *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report*

V.	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		

1. Statement

Novelty (N)	Claims	1-16	YES
	Claims		NO
Inventive step (IS)	Claims	1-16	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Documents cited in the search report:

WO 99/57835

US 5748740

US 5987132

US 5822737

US 5991738

GB 2338381

NOVELTY & INVENTIVE STEP(N). Claims 1- 16

None of the listed documents individually or in any combination obvious to a person skilled in the art disclose all of the combinations of features as defined in claims 1-16. In particular, none of the documents disclose an online transaction method in which a unique transaction multi-use identifier (not unique to a transaction) is provided by the transaction manager to the user for purchase; then provided to the merchant to make the purchase, that also identifies the user to the merchant for purposes of payment for the purchase, and serves to again identify the user to the transaction manager; and identifies the transaction previously initiated by the user, as in the present invention.

ELECTRONIC FUNDS TRANSFER METHOD

Field of the Invention

5   The present invention relates to an electronic funds transfer method for conducting an online purchase and a payment process.

Background of the Invention

The present e-commerce environment and systems do not provide people with confidence
10 in shopping online. Consumers are concerned about security issues when using their credit cards/debit cards to make purchases. They are worried that by using their credit cards/debit cards to make purchases online, that it will compromise the security of their credit cards/debit cards and they will be vulnerable to fraud. Should credit card information go into the wrong hands, credit card owners may be liable for transactions not
15 conducted by them.

The present invention provides a process that adds security to the transaction to alleviate some of the risks involved.

20 ## Summary of the Present Invention

In accordance with the present invention there is provided a method of conducting an online transaction, said method including the steps of:

providing a transaction manager;

registering a user with the transaction manager;

25   registering a merchant with the transaction manager;

the user requesting a unique transaction identifier from the transaction manager to cover the purchase;

the transaction manager checking the validity of the user;

the transaction manager providing the user with a unique transaction identification
30 if the user is valid;

the user requesting the merchant for a transaction to purchase a product or service;

the user providing the transaction identification to the merchant;

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the merchant providing the transaction identification to the transaction manager;

the transaction manager validating the transaction identification;

the transaction manager providing the merchant with a unique transaction number if the transaction identification is valid; and

5   the transaction manager depositing payment into the merchant's financial institution account.

Preferably the transaction manager deducts money from a user's account to cover the money paid to the merchant. Preferably the transaction manager deducts money at the

10   time of the request of the unique transaction identifier. Alternatively the transaction manager deducts money at the time of the transfer of money to the merchant.

Preferably the user's account is with a financial institution. Alternatively the user's account is with the transaction manger, the account may be a credit account or a charge

15   account. Preferably the transaction manager issues a new account that corresponds to an existing account with a financial institution, whereby the new account details are used by the user and merchant in place old the existing account details. Preferably the transaction manager uses the new account details to look up the existing account details and the existing account details are used by the transaction manager with the financial institution.

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Preferably the user requests the unique transaction identifier by an Internet connection. Preferably the user's registration details are stored in a database of the transaction manager. Preferably the merchant's registration details are stored in the database including a unique merchant identification.

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Preferably the user's request for the unique transaction identifier is validated by checking the user's details stored in the database of the transaction manager. Preferably when the merchant forwards the unique identification number to the transfer manager, the merchants unique identifier is sent to the transaction manager, whereby validating the

30   merchants identification is checked by the transaction manager before sending the identification number.

AMENDED SHEET

Preferably the transaction manager checks if sufficient funds are available to cover the transaction and the transaction number is only provided to the merchant if sufficient funds are available.

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Preferably the merchant links to the transaction manager by the Internet or a dedicated secure line to request the transaction number and the transfer of funds. Preferably the link between the user and the transaction manager and merchant and transaction manager are secured by encryption.

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Detailed Description of the Invention

In order to provide a better understanding a preferred embodiment of the present invention will now be described in detail, by way of example only, with reference to the accompanying drawings, in which:

15   Figure 1   is a diagrammatic view of the relationship between entities using the method of the present invention;

Figure 2   is a diagrammatic flow chart representing a transaction process in accordance with the present invention;

Figure 3   is a block diagram of a system architecture of the transaction manager of
20   the present invention;

Figure 4   is a block diagram of a database structure of the transaction manager; and

Figure 5   is a block diagram of a data validation process conducted by the transaction manager.

25   Referring to Figure 1, entities using the method of the present invention are shown. A transaction manger 2 is provided. The transaction manager is referred to as ZIPFUND in the drawings. A user 4 uses the method of the present invention to conduct an electronic fund transfer transaction. Each user must have an account with the transaction manager to use the facility. The account is specific to each registered user. Information held by the
30   transaction manager in relation to each user is held in confidence and in compliance with privacy laws. A user may maintain an Internet financial account with the transaction

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manager. The transaction manager will have the discretion to issue financial accounts to approved clients.

An e-commerce merchant 3 is a person or entity that uses an Internet site to do business
5   with Internet clients. E-commerce merchants may register with the transaction manager to use the facility provided by the present invention. The registration process ensures that the e-commerce merchant site is a secure site and Internet clients are aware of this certification by the transaction manager. E-commerce merchants are required to obtain the transaction manager transaction identifiers from Internet clients prior to confirming payments. The
10   transaction identifier needs to be confirmed by the transaction manager in order to secure payment from financial institution. The transaction manager will maintain a database of registered e-commerce merchants.

A financial institution, such as a bank 1, provides an approved level of funds that an
15   Internet user has available. This may be, for example, a charge account or a credit card.

Each e-commerce merchant requires an account with a financial institution in order to receive payments. The transaction manager is responsible for all payments of transaction to a nominated financial institution of the e-commerce merchant.
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Each financial institution may provide to the fund transfer manager access to a clients financial information including approved funds availability. This will enable the funds transfer manager to confirm an Internet user's financial standing. A financial account is issued to a customer on the basis of an understanding between the transfer manager and a
25   financial institution.

The transfer manager is a trusted intermediatory that provides the services between Internet users, e-commerce merchants and financial institutions. In particular, the transaction manager is intermediatory that a user can trust to interact between the
30   merchant and an electronic funds transfer system of a financial institution. The transfer manager provides e-commerce merchants with an approved transaction number in

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response to a transaction identifier sent to them via a secure network. The transfer manager provides to the financial institution an approved transaction number for each of the transaction identifiers sent by an e-commerce merchant via a secure network. Preferably the transaction manager uses a newly generated account number to replace the original credit card number and/or debit card number account for account transaction processing. This adds another level of security to the process.

The transfer manager is responsible for the security for Internet users carrying out their business to consumer transaction. This is possible through the use of proprietary software, accounting systems, design methodology, data definition and control processes.

Referring to Figure 2 the processing of a transaction is shown. The process starts at 5. An Internet user 4 connects to the Internet at 6 and accesses the transaction manager 2 via the Internet. A user profile password check is conducted for granting access to the transfer manager. The transfer manager also has network security access controls and communication is encrypted. The Internet user is required to register to hold an account with the transfer manager.

The Internet user requests 7 a transaction identifier for his or her shopping needs. That is, the user may request a transaction identifier be provided that will have a record of the limit the user allows to be authorised. This amount must be less than the available credit, but also put an additional limitation on the transaction that can be conducted using transaction identifier. This gives the user control over the maximum value of transaction that may be authorised. The transaction manager checks 8 the Internet user to ensure that he or she is a valid user. The transaction manager confirms the validation process at 9.

If, as a result of this decision at 10, the user is not valid then they are rejected from the transaction manager site. If the user is valid the transaction manager issues at 11 a transaction identifier.

The Internet user is then able to select an item at e-commerce merchants site at 12. Upon

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deciding to purchase the item the user provides the transaction identifier to the e-commerce merchant at 13.

The e-commerce merchant forwards for validation the transaction identifier to the

5   transaction manager at 14. The transaction manager then confirms the validity of the transaction identifier at 15. A security process including a merchant profile password checking is conducted by the transaction manager before access is approved. Further network security access controls such as encryption are provided to prevent security problems.

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If the transaction identifier is not valid at 16 the transaction rejected. If the identifier is rejected the e-commerce merchant is advised along with the reason for the rejection. If the transaction identifier is valid the transaction manager issues an approved transaction number at 17 to the e-commerce merchant and disables further use of the transaction

15   identifiers. The forwarding of the transaction number to the merchant confirms that the transaction identifier was accepted. At 18 the transaction manager issues a credit to the e-commerce merchant's account with the financial institution according to the value of the purchase. The transfer manager undergoes a password check before access to the financial institution is approved. Further network security access controls are also provided

20   including encryption of communication. The process then ends at 19.

In Figure 3, the system architecture of the transaction manager is shown. An operating system 20 provides an underlayer of the transaction manager system architecture. Sitting on top of the operating system is a relational database management system 21. This is the

25   data collection centre of the system. The relational database management system 21 interacts with an application system 22. The application system 22 interacts with a Internet base system 23 that links the transaction manager to the outside world.

Referring to Figure 4, a database structure is shown relating an Internet user's profile to a

30   financial institution and an e-commerce merchant's profile to a financial institution profile. An Internet user's profile 24 is a repository of information concerning a particular Internet

user. This is used for validation with a financial institution profile 25. An e-commerce merchant profile 26 or a repository of information concerning particular e-commerce merchant. This is used for validation with financial institution profile 27. Profiles for Internet user's will be different to those of e-commerce merchant profiles.

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Referring to Figure 5, data validation structure and processes are shown. In relation to the Internet user's profile personal details are checked with the relational database management system for accuracy and if accepted account details are then checked with the relational database management system validity. If accepted, credit details are checked

10   with the relational database management system for validity and if accepted transaction details are stored. Audit trials of each check are also recorded.

In relation to the e-commerce merchant profile corporation details are checked with the relational database management system for accuracy. If accepted, account details are then

15   checked with the relational database management system for validity. If accepted the credit details are checked with the relational database management system for validity. If accepted the transaction details are stored. An audit trail is recorded for each check and changed to the profile.

20   The present invention provides the following functionality to support e-commerce:

  it provides a true online system, that is a process where all transactions are online;

  it provides a purchasing system where all users are able to make purchases online;

  · it provides a payment system that supports other suppliers (merchant and/or financial institution) payment system;

25   the system provides password control to validate processes within the system;

  it provides debit and credit card support enable usage of other suppliers (merchant and/or financial institution credit card/debit card as well as an alternative credit card/debit card facility to make purchases and payments);

  it provides support for all financial institution accounts allowing a transaction to be

30   processed by all types of bank accounts (for example, savings and cheques). Internet users can use all types of bank accounts to make online purchases and payments provided they

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are valid users;

it provides a controlled purchase amount through usage of transaction identifiers with all users able to control the amount of funds for each transaction;

it provides a user validation system with the system validating the users identification;

it provides a merchant validation system with a system validating the merchants identification;

it provides protection system through encryption and decryption system and proprietary system architecture.

Modifications and variations may be made to the present invention without departing from the basic inventive concepts. The nature of such modifications and variations are to be determined within the scope of the present invention as defined by the foregoing description and appended claims.

The claims defining the invention are as follows:

1.   A method of conducting an online transaction, said method including the steps of:
providing a transaction manager;

registering a user with the transaction manager;

registering a merchant with the transaction manager;

the user requesting a unique transaction identifier from the transaction manager for the purchase;

the transaction manager checking the validity of the user;

the transaction manager providing the user with a unique identification of a transaction if the user is valid;

the user requesting the merchant for the transaction to purchase a product or service;

the user providing the transaction identification to the merchant;

the merchant providing the transaction identification to the transaction manager;

the transaction manager validating the transaction identification;

the transaction manager providing the merchant with a unique transaction number if the transaction identification is valid; and

the transaction manager depositing payment into the merchant's financial institution account.

2.   A method of conducting an online transaction in accordance with claim 1, wherein the transaction manager deducts money from a user's account to cover the money paid to the merchant.

3.   A method of conducting an online transaction in accordance with claim 2, wherein the transaction manager deducts money at the time of the request of the unique transaction identifier.

4.   A method of conducting an online transaction in accordance with claim 2, wherein the transaction manager deducts money at the time of the transfer of money to the

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5.   A method of conducting an online transaction in accordance with claim 1, wherein the user's account is with a financial institution.

5   6.   A method of conducting an online transaction in accordance with claim 1, wherein the user's account is with the transaction manger.

7.   A method of conducting an online transaction in accordance with claim 1, wherein the transaction manager issues a new account that corresponds to an existing account with
10   a financial institution, whereby the new account details are used by the user and merchant in place old the existing account details.

8.   A method of conducting an online transaction in accordance with claim 7, wherein the transaction manager uses the new account details to look up the existing account
15   details and the existing account details are used by the transaction manager with the financial institution.

9.   A method of conducting an online transaction in accordance with claim 1, wherein the user requests the unique transaction identifier by an Internet connection.   .
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10.   A method of conducting an online transaction in accordance with claim 1, wherein the user's registration details are stored in a database of the transaction manager.

11.   A method of conducting an online transaction in accordance with claim 1, wherein
25   the merchant's registration details are stored in the database including a unique merchant identification.

12.   A method of conducting an online transaction in accordance with claim 10, wherein the user's request for the unique transaction identifier is validated by checking the
30   user's details stored in the database of the transaction manager.

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13.   A method of conducting an online transaction in accordance with claim 11, wherein when the merchant forwards the unique identification number to the transfer manager, the merchants unique identifier is sent to the transaction manager, whereby validating the merchants identification is checked by the transaction manager before

5   sending the identification number.

14.   A method of conducting an online transaction in accordance with claim 1, wherein the transaction manager checks if sufficient funds are available to cover the transaction and the transaction number is only provided to the merchant if sufficient funds are

10   available.

15.   A method of conducting an online transaction in accordance with claim 1, wherein the merchant links to the transaction manager by the Internet or a dedicated secure line to request the transaction number and the transfer of funds.

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16.   A method of conducting an online transaction in accordance with claim 1, wherein the link between the user and the transaction manager and merchant and transaction manager are secured by encryption.

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ABSTRACT

ELECTRONIC FUNDS TRANSFER METHOD

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A method of conducting an online transaction, said method including the steps of providing a transaction manager, registering a user with the transaction manager, registering a merchant with the transaction manager, the user requesting a unique transaction identifier from the transaction manager to cover the purchase, the transaction

10 manager providing the user with a unique transaction identification, the user requesting the merchant for a transaction to purchase a product or service, the user providing the transaction identification to the merchant, the merchant providing the transaction identification to the transaction manager, the transaction manager validating the transaction identification, the transaction manager providing the merchant with a unique

15 transaction number if the transaction identification is valid, and the transaction manager depositing payment into the merchant's financial institution account.

(Figure 1)